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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/553,581

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Franz Kaspar

14261

1491

Orum & Roth  
Suite 1616  
53 West Jackson Boulevard  
Chicago, IL 60604-3750

7590

05/10/2011

EXAMINER

SAVAGE, JASON L

ART UNIT

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1784

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/553,581	<b>Applicant(s)</b> KASPAR ET AL.	
	<b>Examiner</b> JASON L. SAVAGE	<b>Art Unit</b> 1784	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2011.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 17-25 is/are pending in the application.
- 4a) Of the above claim(s) 20-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 17-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Drawings***

The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

Applicant again recites that a Drawing will be submitted however no drawing appears to have been filed with the present response. The Examiner has been unable to find any drawings associated with the present Application.

### ***Claim Objections***

Claims 3, 5-6 and 9 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

It is noted that claims 3, 6 and 9 are listed as being withdrawn. Furthermore it is noted that Applicant recites the claims 'have now been deleted' on page 8 of the Amendment filed 1-24-11. However, the claims should not be withdrawn and thus are considered to still be pending in the present Application. Should Applicant desire to delete, i.e. cancel the claims, their status identifier should be changed to (Canceled) instead of (Withdrawn).

It is also noted that claim 5 recites the coating thickness is 0.5 to 5  $\mu\text{m}$  both in line 6 and the last line of the claim.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 7-8, 10 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites a coating thickness range which falls outside of the range recited in the parent claim having a maximum thickness of 5  $\mu\text{m}$ .

Claims 1, 7-8, 10 and 12 recites broader ranges followed by narrower range which makes the claim indefinite since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

Regarding claims 1, 7-8 and 10, 7, 8 and 10 the claims have two different statements for the coating thickness. The first that the thickness is at least 0.3 such as in line 6 of claim 1 and again that the coating thickness is 0.5 to 5  $\mu\text{m}$  in the last line of the claim.

Regarding claim 12, the disclosures that the main body material may be a "CuNiSi(X) alloy: (such as) C7025, C7026" renders the claim indefinite since it is not clear if alternate CuNiSi(X) alloys other than the two explicitly recited are suitable. The same issue exists with the alloys for (b), (c), (d), (e) which still recites "for example", (f), (g), (h), (i), (j), (k).

Appropriate correction or clarification is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng et al (US 5,679,471) in view of Koichi (JP 59-153852 English Abstract).

Cheng teaches electrical connectors having a silver-based coating exhibiting prolonged fretting wear durability, low contact resistance, low coefficient of friction and high thermal stability (col. 1, ln. 5-23, col. 3, ln. 14-21). Cheng further teaches the silver-

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based coating has a thickness between 0.1-8  $\mu$ m and is deposited by vapor deposition (col. 4, ln. 26-35). Cheng further teaches that by adding an addition such as nickel to the silver based coating a non-alloyed coating composition formed wherein phases rich in nickel are dispersed in a silver phase (col. 1, ln. 1-25). Cheng further discloses that the coated contact may further include a diffusion barrier layer such as nickel (col. 7, ln. 47-56).

Cheng is silent as to the addition being the specific materials claimed such as tungsten or molybdenum in the amount claimed. However, Koichi teaches an Ag-Ni electrical contact material having improved consumption and welding resistance due to the inclusion of between 0.05-5.0 wt % of an addition material such as Mo or W. It would have been obvious to have added 0.05-5 wt% of a known additive such as W or Mo as taught by Koichi to the Ag-Ni coating material of Cheng with a reasonable expectation of success of forming a contact having improved hardness and consumption and welding resistance.

Regarding the limitation in the independent claims and claims 2-4 that the thickness of the coating falls within the claimed range, Cheng teaches a preferred coating thickness of 0.5  $\mu$ m and thus meets the claim limitation (col. 4, ln. 26-36).

Regarding claims 5-10 and 15, the addition of molybdenum or tungsten being provided within the claimed minimum and maximum ranges, the disclosure that the claimed additions are provided between 0.5-5 wt% as set forth above would meet the claim limitations.

Regarding claim 11, although Cheng is silent to the coating being deposited by sputtering, the claims are drawn to an article. Absent a teaching of the criticality or showing a difference in the product as claimed, it would not provide a patentable distinction over the prior art.

Regarding claim 12, Cheng teaches that copper alloys and stainless steel are conventionally employed as the main body materials (col. 4, ln. 37-49) but is silent as to the specific alloys such as those claimed. However, the recited alloys are conventional copper alloys employed in electrical applications. It would have been obvious to one of ordinary skill in the art to have selected any known copper or stainless steel alloy known to be suitable for use as connector substrate in the connectors of Cheng as modified by Koichi with a reasonable expectation of success.

Regarding claims 13-14, Cheng teaches a connector which would be considered as much of a strip which is pre-punched as the article claimed by Applicant (col. 53-65).

Regarding claims 17, Cheng teaches forming an intermediate layer of nickel (col. 7, ln. 48-56).

Regarding claim 18, Cheng is silent to the concentration of the addition being lower at the surface than in a deeper region of the coating, however since the coating is formed from the same materials in a substantially similar manner, it would be expected that it would exhibit the same property of having a higher concentration in a deeper region such as claimed.

Regarding claim 19, the contacts of Cheng are plug-in connecting contacts (Figure 1).

***Response to Arguments***

Applicant's arguments filed 1-24-11 have been considered but are not persuasive.

Regarding the objection to the Specification as to having new matter, since the proposed Amendment filed 7-24-10 was not entered, the prior objection to the specification was in error as the recited limitation was never added to the specification as stated in the objection

Regarding the drawing, as set forth above, the Examiner cannot locate a drawing for the Application. It is requested that Applicant specify what date the drawing was submitted as the examiner can find not record of a drawing.

Regarding claims 3, 6, and 9, should Applicant wish to cancel the claims, the status modifier should be changed to (Canceled) as opposed to (withdrawn).

Regarding the rejection under 35 USC 103(a), Applicant asserts that the references are not combinable since Cheng teaches a nano composite coating having fine grains and Koichi teaches a grain size of 5.3  $\mu\text{m}$ . First, Koichi's disclosure of grains does not appear to be drawn to grain size, but rather the particle size of the additives such as Ni W or Mo. Second, It is well settled that the test of obviousness is not whether the features of one reference can be bodily incorporated into the structure of



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another and proper inquiry should not be limited to the specific structure shown by the references, but should be into the concepts fairly contained therein, and the overriding question to be determined is whether those concepts would suggest to one of ordinary skill in the art the modifications called for by the claims, *In re Van Beckum*, 169 USPQ 47 (CCPA 1971), *In re Bozek*, 163 USPQ 545 (CCPA 1969); *In re Richman*, 165 USPQ 509 (CCPA 1970); *In re Henley*, 112 USPQ 56 (CCPA 1956); *In re Sneed*, 218 USPQ 385 (Fed. Cir. 1983).

In response to the issue whether the reference is nonanalogous art, it has been held that the determination that a reference is from a nonanalogous art is twofold. First, one decides if the reference is within the field of the inventor's endeavor. If it is not, one proceeds to determine whether the reference is reasonably pertinent to the particular problem with which the inventor was involved, *In re Wood*, 202 USPQ 171, 174. In the instant case, both Cheng and Koichi are generally drawn to Ag-Ni coatings for electrical contacts.

Applicant further argues that since Cheng teaches that the coating thickness preferably may be 100-500 nm, it would implicitly state that a thickness more than 500 nm is unsuitable. However, first the coating thickness of 500nm meets the coating thickness range at 0.5  $\mu\text{m}$  and thus meets the claim limitation. Furthermore, Applicant's assertion that the preferred range of 100-500 implicitly teaches away from the claimed range is not persuasive since Cheng explicitly teaches that coatings up to 8000 nm (8  $\mu\text{m}$ ) may be formed.

Regarding claim 11, although Cheng is silent to the coating being deposited by sputtering, the claims are drawn to an article. Absent a teaching of the criticality or showing a difference in the product as claimed, it would not provide a patentable distinction over the prior art. It is noted Applicant asserts that sputtering and vapor deposition yield different results such as sputtered layers usually exhibiting a higher adhesion and density. However, the assertion that such properties may exist is not a proper submission of evidence to support this statement.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON L. SAVAGE whose telephone number is (571)272-1542. The examiner can normally be reached on M-F 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason Savage/  
Examiner  
5-6-11

/Jennifer C McNeil/

Supervisory Patent Examiner, Art Unit 1784